

AMENDMENTS TO THE SPECIFICATION

Please replace the first paragraph on page 77, lines 1 through 17, with the following amended paragraph.

The gene, *AfPMA1*, encoding the plasma membrane proton pump (H^+ -ATPase) of *Aspergillus fumigatus* was characterized from *Aspergillus fumigatus* strain NIH 5233 and clinical isolate H11-20. An open reading frame of 3109 nucleotides with two introns near the N-terminus predicts a protein consisting of 989 amino acids with a molecular weight of approximately 108 kDa. The predicted *Aspergillus fumigatus* enzyme is 89 % and 51 % identical to H^+ -ATPases of *A. nidulans* and *S. cerevisiae*, respectively. *AfPMA1* is a typical member of the class III P-type ATPase family that contains 10 predicted transmembrane segments and conserved sequence motifs, TGESL ([SEQ ID NO.: 13](#)), CSDKTG ([SEQ ID NO.: 14](#)), MXTGD ([SEQ ID NO.: 15](#)) and GDGXNDXP ([SEQ ID NO.: 16](#)) within the catalytic region. The enzyme represents 2% of the total plasma membrane protein, and it is characteristically inhibited by orthovanadate with an $IC_{50}\sim 0.8\ \mu M$. The H^+ -ATPase from *Aspergillus* spp. contain a highly acidic insertion region of 60 amino acids between transmembrane segments 2 and 3 which was confirmed in the membrane assembled-enzyme with a peptide-derived antibody. Increasing gene copy number of *AfPMA1* confers enhanced growth in low pH medium consistent with its role as a proton pump. Burghoorn, H.P. *et al.* (2002) 46(3):615-24.

IN THE SEQUENCE LISTING

Applicants request that the Substitute Sequence List enclosed herewith be added directly following the Specification.